

PMB 01Y2 PERCEPTUAL MOTOR LEARNING

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PROGRAM : HUMAN MOVEMENT STUDIES
MODULE NAME : PERCEPTUAL MOTOR LEARNING
MODULE CODE : PMB 01Y2
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TOTAL MARKS : 110 MARKS

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INSTRUCTION TO CANDIDATES:

PLEASE MAKE SURE YOU HAVE THE COMPLETE PAPER
ANSWER ALL THE QUESTION

QUESTION 1 (20 MARKS)

Define the following terms and give an appropriate example of each (2 marks awarded for each question)

- 1.1 Physical growth
- 1.2 A rate limiter
- 1.3 Newton's second law of motion
- 1.4 Cephalocaudal
- 1.5 Spontaneous movements
- 1.6 Leaping
- 1.7 Perception
- 1.8 Spatial perception
- 1.9 Self-esteem
- 1.10 A knowledge structure

QUESTION 2 (10 MARKS)

Choose the correct answer

2.1 The normal growth curve is S-shaped, meaning which of the following?

- a. Every member of the species begins growth spurts at the same age.
- b. The rate of growth (slope of the curve) is the same for every member of the species.
- c. Every member of the species has the same pattern of growth, featuring two periods of rapid growth.

2.2 The decrease in height that can occur in older adulthood results mainly from change in which body area?

- a. legs
- b. spine
- c. head

2.3 Which of the following is the fastest growing in infancy and childhood?

- a. head
- b. trunk
- c. legs
- d. arms

2.4 An infant moves involuntarily when you touch the soles of his feet. Such a movement is

- a. uncoordinated
- b. random
- c. habituated
- d. long latency
- e. reflexive

2.5 What of the following is a rate limiter for walking?

- a. strength
- b. balance
- c. body proportions or size
- d. *a* and *b*
- e. *a*, *b*, and *c*

2.6 You are assessing a group of 3- to 5-year-olds on locomotor skills. One 3-year-old boy can't gallop while participating in your assessment. However, when you see him later in the day on the playground, he is galloping. What constraint is most likely influencing the motor behavior of this child?

- a. individual structural
- b. environmental sociocultural
- c. environmental physical
- d. task (equipment)
- e. task (rules)

2.7 Which of the following is the most advanced developmental step in the backswing component of the overarm throw?

- a. an upward backswing
- b. a circular, downward backswing
- c. flexion of the arm at the shoulder and elbow

2.8 Which view of the development of reaching now seems to be the most accurate?

- a. Infants must see their hands and match their vision of it to the feel of reaching.
- b. Infants begin with "ballpark" reaches and then improve control of their arms, each infant in its own way.
- c. Infants fine-tune reaching from poorly coordinated initial attempts to reach.

2.9 Manipulating a constraint at any given time may produce a _____ change in movement. However, in motor development, we are most concerned with changes in movements over time, particularly ones that become more _____. (1/2 MARK EACH)

- a. functional; permanent (or structural)
- b. immediate; temporary
- c. functional; short term
- d. limited; permanent (or structural)

2.10 The motor development of a young adult will be most affected by which socializing agents?

- a. peer groups
- b. teachers
- c. parents

QUESTION 3 (10 MARKS)

State whether the following statements are true or false.

3.1 The loss of weight in older adulthood results mainly from loss of muscle tissue.

- a. True
- b. False

3.2 If you stimulate an infantile reflex enough times, the infant will learn to inhibit it.

- a. True
- b. False

3.3 A main difference between walking and running is that a flight phase is observed while running.

- a. True
- b. False

3.4 One problem with using the throw for distance as a gauge of throwing development is that the score reflects body size and strength as well as skill.

- a. True
- b. False

3.5 During the first year of life, infants make a transition from precision grips to power grips when grasping an object.

- a. True
- b. False

3.6 The ecological task analysis also provides a way to standardize a test environment so performers can easily be compared with each other (or with themselves on different occasions).

- a. True
- b. False

3.7 If your parents are sedentary, it is likely that you will react against this and become active.

- a. True
- b. False

3.8 An individual's self-esteem may fluctuate a little but will stay fairly constant across the life span.

- a. True
- b. False

3.9 Children can make responses that are compatible with stimulus signals faster than they can make responses that are not compatible with stimulus signals.

- a. True

b. False

3.10 A discrete analysis is an evaluation of how a particular task or skill is accomplished, focusing on critical components that influence movement.

a. True

b. False

QUESTION 4 (10 MARKS)

Please fill in the blanks

4.1 The change process occurring with the passage of time and leading to loss of adaptability or full function is called _____.

4.2 Relative to genetic factors, extrinsic factors play a _____ role as one moves from conception to older adulthood.

4.3 The Paralympic games include _____ sports.

4.4 In the development of throwing, trunk rotation in which the lower trunk and upper trunk rotate together, as a unit, is called _____ rotation.

4.5 From the perception-action perspective, the characteristic of the person-environment system in which patterns in the environment remain constant is called _____.

4.6 Positive media coverage of a sporting event may act as a constraint because it will _____ participation.

4.7 How you evaluate yourself in general and in particular areas is called your _____.

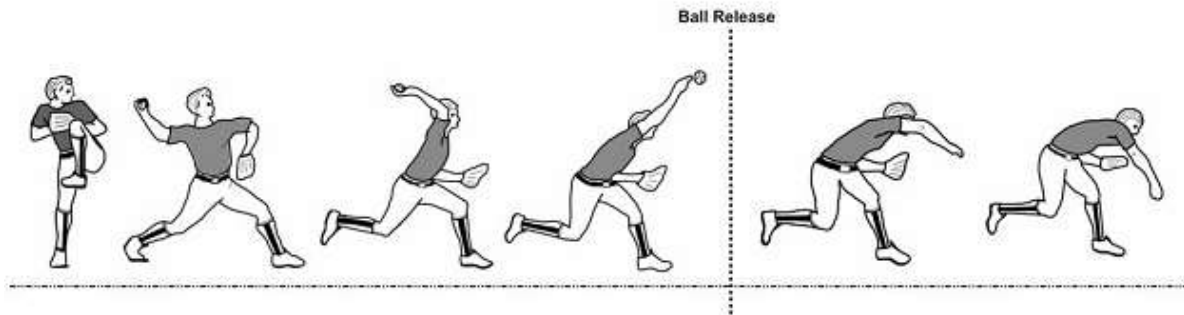
4.8 Knowing how to do something, and doing something in accordance with specific rules, is called _____ knowledge.

4.9 Children first acquire _____ knowledge on a specific topic.

4.10 Growth in the fetal stage is by hyperplasia (an increase in the absolute number of cells) and by _____ (an increase in the relative size of an individual cell).

QUESTION 5 (10 MARKS)

Look at the picture below.



1. Describe four (4) movements involved in pitching a baseball [4]
2. Apply the movements described in question 1 to various principals of motion [4]
3. Name two elements that are essential to the open kinetic chain of movements [2]

QUESTION 6 (6 MARKS)

Describe the interrelated factors that affect adult exercise participation, according to Duda and Tappe.

QUESTION 7 (16 MARKS)

An eight (8) year old boy is playing in a bucket filled up with small colourful balls. After a while the teacher asked the little boy to sort all of the balls according to the same colours by using his left hand and then his right hand, alternately. Some of the balls are soft rubber balls and some are hard rubber balls. Amongst them are also normal plastic balls. After he sorted the balls according to colour, the teacher took two different colour balls and made a figure eight (shape of an 8) in the air with the balls. The boy had to follow the balls without moving his head but using only his eyes.

4.1 Define the interrelationship between cognitive, affective and motor development by referring to the little boy playing in the bucket of balls. [6]

4.2 Sensory nervous system development is of particular importance to motor development and motor learning, as it has many implications for skilful performance. The senses will play a role on how the little boy completes his activities with the teacher. Identify the three (3) sensory systems playing a role with each if the specific activities. [10]

QUESTION 8 (3 MARKS)

Describe what it means to state that constraints can be adjusted to help "push" movers to a different movement pattern. Provide one specific example.

QUESTION 9 (25 MARKS)

Case Study

Rugby is one of the most popular sports in South Africa. Rugby is a team sport with players having various positions within the team. Two teams of fifteen players each (excluding substitutes on the bench) can score points through three methods: scoring a try over the goal line and using the opportunity to convert the try; kicking a penalty to goal; and kicking a drop goal. The game is played on a regular grass field (dimensions are more or less 100m x 72m). Rugby is mostly played outdoors. This specific game is played at night-time and the rain is pouring down with an extremely strong wind blowing from east to west. Both teams playing consist of mixed race players with all their family members and friends cheering them on. These are university level teams playing at Ellis Park stadium. Four players of each team are playing with injuries whilst the captain of the UJ team is struggling to keep up with the tempo of the game as he is suffering with asthma.

1.1 Identify the following from the above-mentioned scenario

[13]

- 1.1.1 Task constraints (4)
- 1.1.2 Environment constraints (4)
- 1.1.3 Individual constraints (5)

1.2 The team captain is running with the rugby ball from one side of the field to the opposite side. While he is running, he kicks the ball behind the opposition's 22-meter line and accelerates as he chases the ball, then catches it to dive and score a try. Identify the three (3) different motor skills involved when the player is executing the movement. **[6]**

1.3 Discuss two (2) major elements that influence an individual's concept of social roles. **[6]**

TOTAL: 110 MARKS